

REMARKS

I. Summary of the Office Action and this Reply

Claims 1-49 are pending in the application. Claims 1-49 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,006,231 to Popa. ("Popa").

Claims 1-4, 9-26, 39-41, 43, 44, 48 and 49 are canceled, without prejudice. New claims 50-75 have been added. Support for the new claims can be found, *inter alia*, in the claims and drawings as originally filed; page 8, line 4- page 11, line 9; page 19, line 8 - page 20, line 9; and page 21, line 11 - page 22, line 27. No new matter has been added.

Claims 5, 27, 31, 33, 42, 45 and 47 have been amended. Attached hereto is a marked-up version of the changes made to the claims by the current amendment titled "Version with Markings to Show Changes Made."

II. Newly Found Art

Submitted herewith is a Supplemental Information Disclosure Statement under 37 CFR § 1.97(c) citing U.S. Patent No. 6,085,199 to Rose ("Rose").

III. Response to 102 Rejections

In paragraphs 3-5 of the Action, the Examiner rejected claims 1-49 in view of Popa. The rejection of claims 5-8 is traversed. Claims 1-4, 9-26, 39-41, 43, 44, 48 and 49 have been canceled. Claims 5, 27, 31, 33, 42, 45 and 47 have been amended.

The Present Invention

The present invention provides a method for fulfilling a user's request for information content with a version of a file containing that information content. For example, if a user requests information content that is an image of a clown, the request may be fulfilled by providing various alternative versions of a file containing that information content, such as a JPEG format image file of a clown, named clown.jpg, or a GIF format image file of the same clown, named clown.gif.

Application, page 14, lines 3 - page 15, line 9. Users can receive individual files in various formats and/or resolutions, with a corresponding savings in network resources and latency for selection of smaller, lower resolution versions of files.

Application, page 12, lines 3-22.

If a user requests a version that is materialized (i.e. stored in memory or otherwise resident) on the server or other computer for servicing a network request for information, that version of the file is transmitted to the user's client device in the usual fashion. Application, page 9, line 26 - page 10, line 1. However, in accordance with the present invention, if the user-selected version is not materialized on the server or other computer, in other words, is not stored on the server or other computer, then the user-selected version is derived from an appropriate materialized version. Application, page 10, lines 1-3. In other words, if a user requests a file that is not actually stored on a server or other computer, the present invention provides for creation of that requested file in an automated fashion, i.e. by conversion, by deriving the requested file from a file that is actually stored on the server or other computer. Thus, multiple versions may be supported although fewer than all

available version files need be stored on the server, etc.; instead, only version files that cannot be derived by conversion need be stored, and any derivable files are derived by conversion as needed from those version files that are stored.

Application, page 15, lines 10-21; page 16, lines 13-19; page 18, lines 14-24. ↙ ↘

Users may select a version or a per-request basis, e.g. through a GUI-based menu, or by providing default settings to automatically have files delivered in a predetermined manner. Application, col. 9, line 22 - page 10, line 1; page 19, lines 18-23; page 20, lines 3 - page. 21, col. 1.

U.S. Patent No. 6,006,231 to Popa

Popa discloses a new file format for storing an image such that portions of the specially formatted image file can be retrieved to provide various levels of resolution (various versions) of that image. In this manner, Popa seeks to decrease the amount of time it takes to get the image to the end user while allowing "a user to retrieve any combination of resolution, dimension and colour quality of an image, without the need for time-consuming . . . post-processing." Popa, col. 1, lines 20-24; col. 2, lines 36-38.

Popa requires pre-processing steps of encoding, compressing and recompiling of an existing image file into the new format so that a plurality of different versions of the image are accessible from the specially formatted file. Popa, col. 5, lines 35-38. The image in the new file format has a differential hierarchical structure that has a pyramidal structure with minimum information of the image at the top of the pyramidal structure, and the full, original image at the bottom of the pyramidal structure. Popa,

col. 1, lines 50-63; col. 4, lines 28-37. Thus, image information is stored in a single file and downloadable incrementally from that file, in strips or levels. Popa, col. 4, line 49 - col. 5, line 10.

Accordingly, a single image file is stored for supporting multiple image versions. The single image file stored includes multiple versions of the image. Popa, col. 1, line 67 - col. 2, line 1; col. 2, lines 40-42. The file format is structured in such a way to allow multiple versions of the same image to be incrementally downloaded from the single file stored. Popa, col. 3, lines 34-36. Thus, when a low resolution version of the image has been obtained/downloaded, a high resolution version can be obtained/downloaded simply by downloading the difference between the two versions of the image, e.g. by downloading an additional portion of the same image file to provide additional image data. Popa, Abstract; col. 3, lines 19-31; col. 6, lines 14-20.

Argument

Claims 5-8, 27-38, 42 and 45-47 stand rejected under 35 U.S.C. § 102(e) as anticipated by Popa.

A rejection under 35 U.S.C. § 102 is proper only if each and every element of the claim is found in a single prior art reference. MPEP § 2131.

Claims 5-8

Claims 5-8 stand rejected under 102(e) over Popa. Claim 5 has been rewritten in independent form. Contrary to the Examiner's assertion in paragraph 4 of

the Action, Popa provides no disclosure whatsoever of "deriving by conversion the user-selected version from a materialized file from which the user-selected version is derivable if the user-selected version is not accessible to the deriving computer," as required by claims 5-8. Popa does not perform any deriving by conversion.

Conversion is an automated process for generating/creating a new file, e.g. a higher or lower resolution image file or a file in a different format, that is not stored on a server, etc. from an existing (stored) file. Popa merely retrieves and transmits a greater or lesser portion of an image file already stored on a server, specifically a specially formatted image file capable of supporting multiple versions of an image.

The present invention does not require any new, special or proprietary image file format.

Claims 5-8 require conversion of the user-selected version from a materialized file if the user-selected version is not accessible to the deriving computer. This is not disclosed by Popa. Popa discloses delivering to a user/client only those versions/images that are already stored on the server, and therefore accessible to the server, in a single file that supports multiple versions. The present invention provides for delivery of a file not already stored on the server, etc., and therefore not accessible to the server, etc., by deriving (creating) the desired file by conversion of a stored file.

Accordingly, the claimed invention requires a post-request processing step (conversion) that is sought to be avoided by Popa. Popa, col. 2, lines 26-38. However, the claimed invention eliminates a pre-processing step for placing the

image in Popa's proprietary format. Additionally, the claimed invention does not require a proprietary image/file format.

For at least these reasons, reconsideration and withdrawal of the rejection of claims 5-8 is respectfully requested.

Additionally, claims 5-8 require transmitting from the deriving computer to a server, responsive to receiving the request, a request for transmission to the deriving computer of a materialized parent file from which the user-selected version may be derived by conversion. In this manner, a proxy computer between the requesting client and the server that receives the request, is multi-resolution aware. Rather than request the file sought by the client/user as is typical for a proxy device, the multi-resolution aware proxy recognizes that the requested file can be derived and requests transfer to the proxy (deriving computer) of the file stored (materialized) on the server from which the user-selected version may be derived. This is not disclosed by Popa or newly found U.S. Patent No. 6,085,199 to Rose ("Rose").

Accordingly, claims 5-8 are believed patentable.

Claims 27-38

Claims 27-38 stand rejected under 102(e). Claims 27, 31 and 33 have been amended. Contrary to the Examiner's assertions in paragraphs 4 and 5 of the Action, Popa provides no disclosure whatsoever of deriving files by conversion, or delivering files derived by conversion, as discussed above. Claims 27 and 31 have been amended to move a recitation from claim 31 into claim 27, such that claim 27 now requires "generating, at the client, a menu of user-selectable versions of the target

file, at least one user-selectable version being derivable by conversion from a materialized version, the at least one user-selectable version not being materialized."

Accordingly, the menu presents selections for user-selectable versions including at least one version that is not stored on the server or other computer for servicing a request, but rather is available to the user only by deriving the version by conversion from a version/file that is stored on the server, etc. This is neither taught nor suggested by Popa. Accordingly, reconsideration and withdrawal of the rejection of claims 27-38 is respectfully requested.

Additionally, claims 34-38 expressly require derivation of the user-selected version by conversion. This is neither taught nor suggested by Popa, as discussed above. Claim 35 further requires requesting and receiving a materialized version at a proxy if the user-selected version is not available and is not derivable from any version in the proxy's cache, so that the user-selected version may be derived from the materialized version at the proxy after the materialized version is received at the proxy. This is nowhere taught or suggested by Popa. For at least these additional reasons, reconsideration and withdrawal of the rejection of claims 34-38 is respectfully requested.

Additionally, claims 27-38 have been amended to require selecting a hyperlink that is a single point of access to a target file, and responsively generating a menu of user-selectable versions. This is not disclosed by Popa or Rose. Specifically, Rose discloses listing multiple hyperlinks for access to a single file, or to multiple versions of a single file.

Claims 27-38 are therefore believed patentable.

Claims 42 and 45-47

Claims 42 and 45-47 stand rejected under 102(e). Amended claim 42 is directed to a proxy computer having a first program for requesting from a server a materialized parent version of the target file from which the user-selected version can be derived if such a version is not stored on the computer. Accordingly, the proxy computer is multi-resolution aware. As discussed above with reference to claim 5, rather than request the file sought by the client/user as is typical for a proxy device, the claimed multi-resolution aware proxy recognizes that the requested file can be derived by conversion and requests transfer to the proxy (deriving computer) of the file stored (materialized) on the server from which the user-selected version may be derived. This is neither taught nor suggested by Popa or Rose.

Additionally, claim 42 further requires a second program for deriving the user-selected version from the parent version by conversion. As discussed above, Popa provides no disclosure whatsoever of deriving a user-selected version by conversion from another file that is stored on a server, etc. Instead, Popa teaches downloading only selected portions of a single image file already stored on the server, etc. such that all versions are already stored on the server.

Accordingly, reconsideration and withdrawal of the rejection of claims 42 and 45-47 is respectfully requested, and claims 42 and 45-47 are believed patentable.

Claims 50-63

New claims 50-63 require deriving by conversion a derived version of a stored file. As discussed above, Popa does not teach any deriving by conversion of any

files, nor does Popa disclose transmission to a client of any version not already stored on a server or other computer for servicing a client's request for information. Accordingly, new claims 50-63 are believed patentable for reasons similar to those set forth above.

Additionally, claim 50 requires that the derived version be a predetermined default version that is a low resolution version of the parent file. This is nowhere disclosed by Popa or Rose. Rather, the client may request a file from a server in the traditional fashion, and the server may respond in the traditional fashion, but a proxy computer for relaying communications between the client and server may derive by conversion a derived file and transmit the derived version to the client to satisfy the client's request. The identity of the derived version, i.e. its resolution and/or format, is determined by a default setting established by the client or proxy. This is unlike Rose, in which various hyperlinks are shown for various derivable formats (e.g. *.voc or *.au formats, see Figure 3) so that the user may select a file in a desired format. Additionally, because not all of the files in various formats actually exist, modifications must be made to the client and/or server to cause display of hyperlinks for files that do not actually exist. Unlike Rose, no modification to the client or server are required for the claimed invention.

Claims 58-63 recite cache management techniques that are neither taught nor suggested by Popa or Rose. Therefore, claims 58-63 are believed patentable.

Claims 64-68

Claims 64-68 are believed patentable for reasons similar to those set forth above for claims 50-63. New claims 64-68 require deriving by conversion a derived version of a stored file. As discussed above, Popa does not teach any deriving by conversion of any files.

Claim 64 further requires receiving a request for transmission to a client of a file having particular informational content, resolution, and format, and deriving, by conversion of a materialized file having the particular informational content, a derived version of the file. The derived version of the file has the same informational content at a lower resolution than the materialized file. The resolution and format of the derived version are determined by a default setting. The derived version is transmitted from the deriving computer to the client. In this manner, the file requested has a particular resolution and format, and the request is satisfied by transmitting the derived version to the client, the derived version having a different resolution or format as determined by the default setting. Accordingly, no modifications to the client and server are required. Instead, the invention may be implemented at proxy computers, which is advantageous because specially configuring relatively few proxy computers in accordance with the present invention provides multiresolution to a great number of clients and servers. Claims 65 and 66 expressly recite that the default setting may be specified by the client or proxy.

This is neither taught nor suggested by Popa or Rose. Claims 64-68 are therefore believed patentable.

Claims 69-72

Claims 69-72 are believed patentable for reasons similar to those set forth above. New claims 69-72 require deriving by conversion a derived version of a stored file. As discussed above, Popa does not teach any deriving by conversion of any files.

Additionally, claim 69 requires receiving a request for transmission of the file to a client responsive to a user's selection of a hyperlink to a file having particular informational content, and deriving a derived version of a materialized file in accordance with a default setting. The derived version embodies the particular informational content but has a resolution lower than the materialized file. The derived version is then transmitted to the client.

This is neither taught nor suggested by Popa or Rose. Claims 69-72 are therefore believed patentable.

Claims 73-75

Claims 73-75 are believed patentable for reasons similar to those set forth above. New claims 73-75 require deriving by conversion a derived version of a stored file. As discussed above, Popa does not teach any deriving by conversion of any files.



Additionally, claims 73-75 are directed to a method involving receiving from a server, at a proxy computer for relaying a communication between a sender and a receiver, a materialized file having particular informational content, resolution and format, the materialized file being received at the proxy responsive to a request for

the materialized file. Accordingly, the request for a file is carried out in the traditional manner. Then, the method involves deriving by conversion of the materialized file, at the proxy computer, a derived version embodying the particular informational content but having a resolution and format determined by a default setting. The derived version is then transmitted to the client to satisfy the request. This is neither taught nor suggested by Popa or Rose. Claims 73-75 are therefore believed patentable for reasons similar to those set forth above.

CONCLUSION

In view of the foregoing amendments and remarks, Applicants believe claims 5-8, 27-38, 42, 45-47, 50-75 to be patentable and the application in condition for allowance. Applicants respectfully request issuance of a Notice of Allowance. If any issues remain, the undersigned request a telephone interview prior to the issuance of an action.

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADEIn the Claims

The claims have been amended as follows:

5. (Amended) [The method set forth in claim 1, further comprising the step of:] A method for communicating between computers interconnected by a communications network, the method comprising the steps of:
- (a) receiving, at a deriving computer, a request from a client for transmission to the client of a user-selected version of a target file, the target file having particular informational content independent of its embodiment in a particular version;
 - (b) deriving by conversion the user-selected version from a materialized file from which the user-selected version is derivable if the user-selected version is not accessible to the deriving computer;
 - (c) transmitting, from the deriving computer to the client, the user-selected version; and
 - (d) transmitting from the deriving computer to a server, responsive to receiving the request in step (a), a request for transmission to the deriving computer of a materialized parent file from which the user-selected version may be derived by conversion, step (d) being performed before step (b).

27. (Amended) A method of communication of a user-selected version of a file to a client connected to a server by a communications network, a version of the target file being materialized on the server, the method comprising the steps of:

- (a) selecting, at the client, a hyperlink that is a single point of access to a target file having particular informational content to initiate transmission of a version of the target file to the client;
- (b) responsive to step (a), generating, at the client, a menu of user-selectable versions of the target file, [each] at least one user-selectable version being [either materialized on the server or] derivable by conversion from a materialized version, the at least one user-selectable version not being materialized;
- (c) selecting, at the client, a user-selected version of the target file from the menu; and
- (d) receiving, at the client, the user-selected version of the target file.

31. (Amended) The method set forth in claim 30 wherein the menu of user-selectable versions of the file comprises a selection for [a] the materialized version of the target file [and a selection for a version of the target file derivable from the materialized version by conversion].

33. (Amended) The method set forth in claim 32 wherein the proxy comprises a memory cache for storage of files the method further comprises the step of:

(e) transmitting the user-selected version of the target file from the proxy to the client if the user-selected version is in the cache, step ([f] e) being performed intermediate steps (c) and (d).

42. (Amended) A proxy computer for satisfying a request for a user-selected version of a target file not materialized on the proxy computer, the proxy computer comprising:

a first program for requesting from [another] a server computer a materialized parent version of the target file from which the user-selected version can be derived if such a version is not stored on the proxy computer;

a second [computer] program for deriving the user-selected version from the parent version by conversion; and

a third [computer] program for transmitting the user-selected version in response to the request.

45. (Amended) The computer of claim [44] 42 wherein the proxy computer comprises a program for transmitting menu-generation information to a client along with a communication transmitted from the proxy computer to the client.

47. (Amended) The computer of claim 46 wherein the proxy computer further comprises:

a fourth program for determining whether the user-selected version is derivable from a parent version resident in the cache; and

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a fifth program for deriving the user-selected version from a parent version resident in the cache.

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